the fixture is slotted at three points *H* to allow the necessary movement of the jaws; and there are three lugs midway between the jaws on the base, in which the spring-pins *J* are carried. After the work has been centered by the jaws, these pins are released and allowed to come into contact with the work; they are then locked by the set-screws *L.* The boring-bar *P* is of the multiple type, having two tools *Q* and *R* for the two inside diameters. The tool Z is carried in the upper part of the side head instead of the lower, in order to economize on the length of the boring-bar.

As the purpose of three supporting points / was simply to steady the work, it was thought that a simpler design would answer all purposes, and the previous method was therefore abandoned in favor of the one shown in the lower part of Fig. 3. In this case the bushing *T* is used directly in the center hole of the table and the boring-bar is made correspondingly shorter. The raising blocks *V* are also lower than in the previous case, and are keyed to the sub-jaws at *X* in the same manner. The construction of the jaws C is identical in both cases. Three spring plungers *S* with knurled ends *W* are inserted in the jaws and tightened in any desired position by the set-screws *U.* This method is much simpler than the other and possesses the added advantages of being both cheaper and more efficient.

Fixture having Three Clamping Jaws and Three Locating Pads. — The work illustrated at *A* in Fig. 4 has been partially bored and faced, and in the setting shown, it is necessary to work from the previously finished surfaces. The base casting *E* is slotted to receive the three steel locating jaws C on which the finished surface *B* locates. These jaws are held in place by the screws *D* and are carefully finished after being drawn into position. The base is centered by the plug *P* in the table hole G, and is held down by the screws *Q* in the lugs *P,* one of which is shown in the plan view. Three pads *II* are finished to support the flange and a driver / is inserted in one of these pads. The work is clamped by means of the hook-clamps *K* in order to keep the diameter of the fixture as small as possible; and a cap-screw *L* passes through the hook-clamp